

1 **WE CLAIM:**

1 1. A disk drive comprising:
2 (a) a disk;
3 (b) a head actuated radially over the disk; and
4 (c) a spindle motor for rotating the disk, the spindle motor comprising:
5 a stator comprising at least one stator coil wrapped around a stator tooth;
6 a hub rotated by the stator when current is applied to the stator coil; and
7 a locking spring arm having a fixed base, wherein:
8 the locking spring arm engages the hub when no current is applied to the stator
9 coil; and
10 the locking spring arm disengages from the hub when current applied to the stator
11 coil generates a magnetic flux which pulls the locking spring arm away from
12 the hub.

1 2. The disk drive as recited in claim 1, wherein the locking spring arm comprises a magnetic
2 material for interacting with the magnetic flux.

1 3. The disk drive as recited in claim 1, wherein the locking spring arm comprises a rubber
2 material for engaging the hub.

1 4. The disk drive as recited in claim 1, wherein the locking spring arm comprises a spring
2 material for biasing the locking spring arm toward the hub.

1 5. The disk drive as recited in claim 1, wherein the locking spring arm is non-elastic so that
2 the locking spring arm remains disengaged from the hub when the current applied to the
3 stator coil is turned off.

1 6. The disk drive as recited in claim 1, wherein the locking spring arm comprises a
2 substantially arcuate shape corresponding to an arcuate shape of the spindle motor.

1 7. The disk drive as recited in claim 1, wherein the locking spring arm comprises a
2 substantially circular shape corresponding to a circular shape of the spindle motor.

1 8. A spindle motor for use in rotating a disk in a disk drive, the spindle motor comprising:
2 (a) a stator comprising at least one stator coil wrapped around a stator tooth;
3 (b) a hub rotated by the stator when current is applied to the stator coil; and
4 (c) a locking spring arm having a fixed base, wherein:
5 the locking spring arm engages the hub when no current is applied to the stator
6 coil; and
7 the locking spring arm disengages from the hub when current applied to the stator
8 coil generates a magnetic flux which pulls the locking spring arm away from
9 the hub.

1 9. The spindle motor as recited in claim 8, wherein the locking spring arm comprises a
2 magnetic material for interacting with the magnetic flux.

1 10. The spindle motor as recited in claim 8, wherein the locking spring arm comprises a rubber
2 material for engaging the hub.

1 11. The spindle motor as recited in claim 8, wherein the locking spring arm comprises a spring
2 material for biasing the locking spring arm toward the hub.

1 12. The spindle motor as recited in claim 8, wherein the locking spring arm is non-elastic so
2 that the locking spring arm remains disengaged from the hub when the current applied to
3 the stator coil is turned off.

1 13. The spindle motor as recited in claim 8, wherein the locking spring arm comprises a
2 substantially arcuate shape corresponding to an arcuate shape of the spindle motor.

1 14. The spindle motor as recited in claim 8, wherein the locking spring arm comprises a
2 substantially circular shape corresponding to a circular shape of the spindle motor.